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THE ANNOYANCE CAUSED BY AIRPLANE NOISE IN THE  
VICINITY OF ORLY AIRPORT AND THE  
REACTION OF NEIGHBORING RESIDENTS:  
QUALITATIVE RESEARCH

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Translation of excerpts from "La gêne causée par le bruit des avions  
au voisinage de l'aéroport d'Orly et les réactions des riverains ,  
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16. Abstract Contained herein are the general conclusions section and technical appendix of a report on the attitudes of people living near Orly Airport (Paris) toward airplane noise. The noise was found to be very disruptive of residents' lifestyle and well-being, although differences in perceived nuisance were noted. The factors inducing people to protest and who they blame for the present situation are discussed. It was found that the public image of protestors was generally positive and that people who did not protest were viewed as passive, uncaring, or else connected to aviation.			
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This report presents the results of a study carried out at the request of the Secrétariat General à l'Aviation Civile [Civil Aviation Administration] by the Institut Français d'Opinion Publique [French Institute of Public Opinion].

The purpose of the research was to study the nature of the nuisance caused by airplane noise to people residing in communities highly exposed to such noise and to analyze their reactions, particularly their protest actions.

The information presented in the report was basically the end-product of a qualitative analysis of 39 in-depth interviews conducted in June, 1972 in the towns of Chilly-Mazarin, Juvisy, Ville-neuve le Roi, and Wissous.

The technical appendix to the report contains some specifics on the research methods used.

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General Conclusions

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The following principal lessons can be gleaned from our exploratory research carried out by means of 39 in-depth interviews with neighbors of Orly, both complainers and noncomplainers.

I. The Nature of the Nuisance, Its Manifestations, Its Fluctuations

+ The neighbors of Orly who are most exposed to the noise have experienced traumatizing episodes of very loud noise, usually only from time to time. The intensity of the noise and the accompanying vibrations can give rise to unpleasant sensations close to physical pain which cause instinctive gestures of self-defense to be made. The sudden, "crushing" burst of noise from an airplane passing overhead at low altitude constitutes an aggressive act which can cause momentary shock or trauma and engender a certain amount of panic.

The interviewees sometimes experience these sensations, or, more frequently, they have observed them in children. The parents naturally are not indifferent to such reactions. Some have even had to send a child who could not bear the noise off to a boarding school outside the exposed region.

In addition, very intense noises remind some people of the sound of bombers and the explosion of bombs. The noises heard during the last war are a sort of reference point in matters of noise intensity, but they also have negative connotations.

+ The annoyance most commonly experienced by Orly's neighbors

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\*Numbers in the margin indicate pagination in the foreign text.

comes from frequent overflights, whose noise is "irritating" or "aggravating". Repetition of the noise makes an individual irritable and nervous, which is distressing for both himself and those around him (notably because of its repercussions on the harmony of the family unit). At the end of the day, after numerous airplane overflights, an irksome sensation of fatigue or stupefaction may be felt.

So much more irritating because it has to be suffered passively, the noise interrupts conversations and makes it hard to listen to the radio or television. An individual is deprived of the use of his yard during warm weather, at which point the airplane's mechanical noise confronts the concept of nature. Frustrated in pursuing their leisure activities, Orly's neighbors feel more or less confined to their homes, where they are still not sheltered from the noise. Nevertheless, although soundproofing appears indispensable in the schools, the people interviewed frequently reject it as a solution for private housing. It seems very costly and relatively ineffective to individuals who often live in small, detached houses.

The people interviewed feel that in addition, the noise often has /II serious repercussions which threaten physical and mental health. This or that case (known personally or heard of) in which the noise caused nervous breakdowns, convulsions, and depression or other psychiatric troubles is cited. More rarely, physical problems such as deafness or heart troubles are also blamed on the airplanes.

The people residing near Orly, convinced that they are living under abnormal conditions, often think that the noise has an insidious action. In particular, the mechanisms for habituating oneself to the noise appear to mask a slow, but inexorable deterioration of the nervous system. The individual who is bothered by the noise thus feels a more or less long-term menace weighing on himself and his family.

From this point of view, it is likely that dissenting attitudes will develop in the population. This likelihood is increased when

the residents near Orly unconsciously exaggerate the part the airplanes play in the etiology of certain physical or psychiatric problems. On this subject, it should be noted that the opinion of the medical profession, of the family doctor, can reinforce worries about the noise's noxious effects.

The very close proximity of the airplanes also causes other annoyances for the neighboring residents:

- In a more or less latent and usually intermittent manner, the people over whom the airplanes fly are afraid of an accident. An airplane which flies overhead at a low altitude and seems to have difficulties taking off or to be descending too quickly for landing might arouse such a fear. This fear can be reinforced by the knowledge of accidents that have occurred.
- Falling kerosene is an annoyance to the extent that it dirties objects exposed to the air. Beyond that, the pollution of the air is seen as a threat to health and as a degradation of nature.
- Finally, the nuisance due to the airplanes leads to a devaluation of people's lifestyle, an "objective" sign of which is the reduction in the price of housing.

+ The principal factors which might account for variations in the perceived nuisance are linked to:

/III

- The conditions of exposure to and the nature of the noise. The major variables of this type having an effect on the amount of annoyance are the frequency of flights, the flight path's proximity, daily or seasonal fluctuations in the number of flights, and exposure to takeoff or landing noises. Night flights, morning flights, whether or not one stays continually in the noise zone, accidents of terrain, wind direction, and type of airplane seem to have less influence on the level of

annoyance and sometimes give rise to contradictory evaluations among the persons interviewed.

- Individual psychological characteristics. These basically concern differences in sensitivity to noise. Certain individuals appear to be much more sensitive than others for reasons of temperament or character, or for transitory reasons. In addition, acclimatization seems to play a role. It appears that mechanisms of habituation allow noise tolerance to increase, particularly in people who have lived for a long time in the community and are attached to it. In fact, habituation sometimes seems much closer to resignation, to submission to the noise than to true acclimatization.

## II. The Reactions of Neighboring Residents

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+ Those responsible for the present unsatisfactory situation are basically, in the eyes of the interviewees:

- The airplane manufacturers and the airlines. They are especially reproached for not emphasizing research on and establishment of procedures for reducing airplane noise for financial reasons.
- The public administration: the state, the government, the Ministry of the Environment, Orly Airport, and the municipality. They are reproached for not asserting their authority over the airlines and are even accused of collusion with them. The authorization of construction in the vicinity of Orly and the development of an airport in an urban zone are equally criticized.
- Real estate promoters, technical progress (which parallels the increase in noise) and, more rarely, pilots also share in the responsibility according to Orly's neighbors.

+ The interviewees' protests against the noise corresponds to



various degrees of mobilization. Generally speaking, the protesters are conscious of the fact that the nuisance is widely experienced in their community, consider their protest legitimate and opt for collective action. They often are of the opinion that they have a privileged role to play as intermediaries between the population and the state administration.

Even if they are determined to pursue their actions, the protesters often appear to be dominated by feelings of powerlessness when faced with the resistance that has to be overcome and the minimal results obtained.

The people who have not participated in protest actions are far from a homogeneous group. Their motivations vary a great deal. Some claim that the noise does not bother them very much. Others are afraid of being manipulated for political ends. Others have an occupational connection to Orly. Others are kept from acting by their feelings of powerlessness. Finally, there are others whose own passivity has given them a "bad conscience".

A projective test of the public image of protesters and non-protesters showed that protesters have an overall positive image. People describe them as either persons especially annoyed by the noise, to whom they extend a commiserating sympathy, or as energetic, dynamic individuals, who elicit more ambivalent sentiments when considered to possess a certain aggressiveness.

For the interviewees, three main types characterize the noncomplainers. The first group are passive people, resigned to their feelings of powerlessness or to their inhibited dissimulating personalities. Then there are carefree and optimistic young people who are not worried much by the noise. Lastly are the people who can not protest because of occupational links to aviation.

The rather common feelings of powerlessness expressed by the people interviewed seems to imply a risk that one day violent actions, mass demonstrations, or individual actions, which, for the moment, the

interviewees consign to the realm of fantasy, will erupt.

+ The results of a survey conducted by IFOP/ETMAR in June, 1971 were subjected to mathematical analysis (segmentation). The answers of 3634 individuals who claimed to hear airplane noise were taken into account. The goal of the program used was to isolate segments of the population so as to compare the most likely proportions of complainers at successive dichotomous variable pairs.

The results showed that judgements about certain characteristics of the environment (notably air purity) and living conditions in neighborhoods better distinguish complainers from noncomplainers than does socio-demographic characteristics (with the exception of sex).

The population segment in which the level of complainers was the highest (74%) was composed of men who had lived in their neighborhoods for more than three years. They were generally employed (74%) and belonged more often than the population as a whole in the area under study to the ranks of middle management. They lived in apartments, which they generally rented (71%). Their opinions of their neighborhoods were rather negative. They were only barely or not at all satisfied with the quality of its air. They were more unhappy than the average with traffic and parking conditions, and also with the parks.

The segment with the lowest level of complainers (13% actual or potential complainers) was on the contrary characterized by its satisfaction with respect to the environment. The group included a few more women than average and was a little older. The members of this group did not leave the survey zone to go to work, and a high proportion (68%) were not even members of the working population.

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Another source of ambivalence with respect to air transports

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is observable, this time linked to the price of tickets and to the picture people have of air travelers. Airplane trips are expensive, and their basic advantage is to save time: Airplane passengers seem to be well-to-do people travelling for pleasure and, even more so, businessmen. This means of transportation does not seem to be sufficiently democratized yet. Some of the interviewees who would like to take an airplane feel excluded from the clientele. This sometimes leads to frustration, bitterness, or hostility toward air transport users:

"Even so, they shouldn't disturb some people's rest or sleep so other people can take trips. People have to travel, OK, but don't bother the people who aren't going anywhere."  
[No. 26]

"They should make the prices more affordable for workers. You can't say that there are a lot of workers who have the money for a trip in an airplane." [No. 31]

"It helps some people...it shouldn't hurt other people at the same time! Well, modern improvements, all right, but... Everybody has the right to his share of the pie! Those who have the money can take the plane, but if I want to eat on my land, give me peace also! He who has to go 6000 km, he takes the plane instead of his car; well, I have the right to be left in peace when I eat in my yard!..." [No. 17]

"We certainly might take the airplane in an emergency. But for the worker, I don't know if... it is really within his reach, if it is already within his reach at the present time!? Certainly for businessmen, uh... they can do it, because if they have to be away for a week, if they can only leave for 24 hours, it's important to them! But for us, since time is not too... if we put in a day or two, we're later for our vacation! That's not important, the vacation will be a little shorter, but also a little cheaper! We make a base down there and that's it!" [No. 18]

## Appendix 2: Research Methods

### 1. The Population under Study

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The research was carried out with neighbors of Orly who live in areas of high airplane noise. With the agreement of STNA, four communities were picked: Chilly-Mazarin, Juvisy, Villeneuve le Roi, and Wissous.

Within the framework of the qualitative work, it was important to collect a very broad sample of attitudes concerning the noise, the nuisance, and protests against the noise. In order to compare the sample according to these criteria, we referred to the questionnaires used by IFOP-ETMAR in a quantitative survey one year before. We looked up the addresses of the people who in June, 1971 either claimed to have protested or wanted to protest against airplane noise. In cases in which for various reasons we could not interview the person previously interviewed, the conversation took place with his or her spouse.

### 2. The Interview

Information was collected through focused conversations: A conversation guide made it possible to center the interview on a certain number of themes while retaining the use of nondirective techniques. The themes were gradually introduced if they were not spontaneously touched on after the interview began.

At the end of the interview, the interviewer displayed a sheet of 12 photographs for the purpose of making a projective test of the image people have of complainers and noncomplainers.

The reader will find the conversation guide and photographs used starting on page 128.

### 3. Conducting the Interviews

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Thirty-nine interviews were conducted between June 26 and

July 12, 1972 by four psychological interviewers.

The conversations took place in the homes of the people interviewed. They were recorded on a tape recorder and then completely transcribed. The interviews generally proceeded in a good climate.

It is noticeable that some of the interviews were frequently interrupted by the noise of airplanes. In addition, some people stated the hope that their interview would serve to "convince the public administration to do something about the noise".

Below is a table showing the characteristics of each person questioned as well as his or her interview number.

Characteristics of Interviewees

N° Int.	Sex	Age	Occupation of Interviewee (Alternatively: Head of Family, HOF)	Length of Residence in Locality	Locality
1	M	70	Retired Railroad Manager	33 years	JUVISY
2	M	57	Head of Admin. Services	27 years	JUVISY
3	F	37	HOF: Corporate Director	37 years	VILLENEUVE
4	M	61	Factory Guard	3 1/2 years	VILLENEUVE
5	M	39	Boilermaker	10 years	VILLENEUVE
6	M	62	Chief Assembler (fans)	12 years	WISSOUS
7	F	70	HOF: Retired Constr. Worker	48 years	VILLENEUVE
8	F	69	Retired Secretary	42 years	VILLENEUVE
9	F	36	HOF: Works at Orly	15 years	VILLENEUVE
10	M	79	Manufacturer (retired)	45 years	VILLENEUVE
11	F	33	HOF: Machinist	20 years	VILLENEUVE
12	M	48	Accountant	20 years	WISSOUS
13	F	69	Retired Assembler	50 years	VILLENEUVE
14	F	44	HOF: Airline Agent	12 years	VILLENEUVE
15	M	66	Retired	36 years	WISSOUS
16	F	52	Furniture Dealer	11 years	WISSOUS

N° Int.	Sex	Age	Occupation of Interviewee (Alternatively: Head of Family, HOF)	Length of Residence in Locality	Locality
17	M	39	Leather Goods at Home	28 years	VILLENEUVE
18	F	58	HOF: Foreman - Mason	9 years	CHILLY
19	M	51	Telephone Technician	17 years	WISSOUS
20	F	66	Retired	5 years	CHILLY
21	F	62	Worker (Blue Collar)	30 years	WISSOUS
22	M	60	Retired Chief Roadmender	22 years	JUVISY
23	F	34	Laboratory Asst. HOF: Engin'r	3 years	CHILLY
24	M	38	Engineer	10 years	JUVISY
25	F	33	HOF: Medical Inspector	33 years	JUVISY
26	M	47	Electrical Worker	11 years	WISSOUS
27	M	66	Retired	1 year	CHILLY
28	F	42	HOF: Teacher	16 years	VILLENEUVE
29	M	25	Warehouseman at Orly	2 years	VILLENEUVE
30	F	37	Computer Operator HOF: Printer	20 years	VILLENEUVE
31	F	27	HOF: Mechanic	3 years	VILLENEUVE
32	F	49	HOF: Auto Body Repairman	15 years	VILLENEUVE
33	F	52	HOF: Public Relations	52 years	VILLENEUVE
34	F	35	HOF: Commercial Agent	6 years	JUVISY
35	F	45	Housekeeper HOF: Electrician	45 years	VILLENEUVE
36	M	48	Barber	9 years	CHILLY
37	F	41	HOF: Mason	41 years	CHILLY
38	M	49	Vocational School Teacher	3 years	JUVISY
39	F	46	Hairdresser	15 years	JUVISY

### Conversation Guide

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1) Would you like to talk with us about the airplane noise in your community and the annoyance that you feel?

Content brought up in a nondirective way.

Get more details on the circumstances surrounding the annoyance and the manner in which the noise intrudes in different circumstances.

Do not hesitate to ask the question, "What impression does it make on you? Try to tell me how it affects you." Let the interviewees find their own words, no matter how difficult it is.

2) Does airplane noise bother you here more particularly or differently than other noises (traffic, for example)? In what way?

3) How do the people around you here, your neighbors and the people you know in the community, react to airplane noise, according to what you know or have heard talked about?

Find out: Does the interviewee perceive himself as more or less sensitive than other people to this phenomenon? Does he feel united with others or different and isolated when faced with this problem?

4) Have you yourself already done something, alone or with other people in your community to protest against airplane noise?

If YES, delve into the circumstances in which the actions mentioned were carried out, their effectiveness, the influence assigned to them, and the feelings they have left in those interested in them.

If NO, induce the interviewee to tell why he or others have not done anything, why it appears to him useful or futile to take action.

5) What do you, who are bothered by the noise, think of civil aviation today, that is, of the development of passenger and cargo airplanes?

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6) At the end of the interview, a projective test: "Here are some photographs of people who live in a region of frequent airplane overflights.

"Let us imagine that two of them have protested one way or another against airplane noise. Which ones are they?"

For each photograph cited: "Please tell me about this person, describe him."

"Now let us imagine that two of these people are highly exposed to airplane noise but will absolutely never protest. [Have them described.] Why won't they protest?"

Note: The interviewer has to pronounce the code names of the photographs chosen so that they can be identified during analysis of the interview.